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ABSTRACT

Data obtained from interviews with Black families during a 1971 interstate regional project in Texas provided the basis for this study, which explores the nature and magnitude of metropolitan (M) and nonmetropolitan (NM) differentials in disability. The following questions suggest the research objectives: (1) Do NM Black families experience more frequent and higher degrees of disability than M Black families? (2) Does the M-NM differential increase as education of homemaker, level of income, and occupational status of the main breadwinner increase? and (3) Does family disability decrease under the above conditions? Selected from a large M center, a small town, and 2 small open-country villages, the respondents were Negro female homemakers between the ages of 18 and 65 having children in the household. It was concluded that M and NM Black families were similar in exhibiting a low degree of family disability, and the NM-M differences observed in degree of family disability were not patterned consistently as expected through levels of education, income, or occupation. While not patterned consistently, the impact of these social attributes on disability did appear to vary often by NM-M residence. Recommendations for further research include finding more accurate instruments to record individual disability and alternative methods of securing responses and calculating the family disability index. Related documents are ED 053 828 and ED 030 512. (HBC)

# BLACK FAMILIES UNDER STRESS: A METROPOLITAN-NONMETROPOLITAN COMPARISON OF HUMAN DISABILITY IN A SOUTHERN AREA*



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ABSTRACT

The purpose of this paper is to explore whether place of residence is related to membership disability using data from a recent study of over 500 Black families residing in East Texas. No place of residence differentials were discovered with regard to attributes of disability. A substantially larger portion of families (one-fourth) were affected by disability than individuals. The disabled members tended to be the homemakers or their children, and the degrees of disability were most often acute. Metropolitan and nonmetropolitan families were similar in exhibiting small disability scores. Place of residence differences in family disability were not patterned consistently nor as expected when controlled for education, income and occupation. Education, income and occupation negatively affected family disability except for nonmetropolitan families in the highest three occupational levels.

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## THE PROBLEM

The purpose of this paper is to explore the extent to which differential access to health, medical and hospital facilities in metropolitan (M) and nonmetropolitan (NM) areas relates to differentials in number and degree of disabilities among Black family members. Texas data on Black families were gathered as part of a larger interstate regional project that provided a basis for beginning to explore the nature and magnitude of M-NM differentials in disability: a subject on which little empirical evidence exists.[1/]

Numerous pressures impinge upon the family as a group and upon its members, individually. The extent to which these pressures affect the social and emotional well-being of the family and its members is an important research area, thus, the focus on disability--what are the effects of physical or mental handicaps, debilitating illness, and deformity of family members upon the social and emotional well-being of the family?

An increased knowledge and understanding of the effects of these conditions and the nature of the stress imposed upon the family should provide (1) some insight into the coping behavior of family members, and (2) some direction into the nature of assistance needed to insure, insofar as possible, the kind of stability which will enhance the future quality of living of families and individuals.

A consensus exists among social scientists that NM areas suffer greater deprivation than M ones in reference to availability of health and medical facilities. In large cities there are many clinics offering

service free or at nominal fees; whereas, there are few in the small ones (Davis, 1955:8). Stitt (1965:105) says, "The maternal and child health situation is poor in the rural areas," and Navarro (1971) points out that the further one gets from the center of a city (Baltimore in his study) the more the health services decline. Simpson and Yinger (1965) state that Negro doctors are concentrated in the cities, and three-fifths of the Negroes who obtain medical care get it from Negro physicians. These statements indicate that there is a differential access to health, medical, and hospital facilities and personnel between M and NM populations.[2/]

Other evidence from past research indicates that Blacks are more deprived than Whites in this respect. Robertson, et alii (1967), found that Whites were more likely to have a doctor who regularly sees their children when occupation, income, parents' education and region of origin were controlled with the same ratio of physicians and hospitals being available for their residential areas. The Negroes were more likely to use public clinics for routine and acute illness care for their children while not feeling that they had gotten the best care there. Simpson and Yinger (1965) have shown that most Negro patients are treated by Negro physicians of which there is a lower proportion than in the general population. These studies indicate that Blacks, in general, are less likely to obtain sufficient medical care. Finally, of ultimate concern, it is a well known fact that Negroes do not live as long as Whites on the average (Davis, 1971).

Several writers have also stated that SES differentials exist in access to health, medical and hospital facilities. The Economist

(September 3, 1966:913) pointed out that "some doctors who had lowered fees for the poor are no longer prepared to . . ." do it when the taxpayers are footing the bill. Axon (1971:64) pointed out the need to encourage "states to provide medical services for the poor." He said that poor families or those with chronic illnesses soon discover that treatment is extremely expensive. Davis (1955:20) said, "By and large, tax-supported medical services to needy persons are insufficient in quantity and quality." Stitt said that

> low income is often a deterrent to utilization of health care. Low-income families are often inadequately immunized against preventable disease. They use other preventive medical services less than do high income families, and do not get a proportionate amount of treatment hospital service (1965:104).

Davis (1971:94) said that there was little doubt about the inadequacy of medical care available to the "urban poor" as opposed to the "middle-class White suburbanites." Clearly these statements indicate that the poor do not have as much access to health, medical and hospital facilities as those who are not poor.

Regional differentials have also been noted. Horton and Leslie (1965: 589) pointed out the lack of physicians, dentists and nurses in the southern states as compared to other regions of the United States.

Horton and Leslie (1965) pointed out three populations who lack medical care: rural (pp. 589-590), low income (pp. 590-593), and racial minorities (pp. 593-595). This review leads to the proposition that NM, poor, Black southerners are the least likely among populations in the United States to obtain good quality health, medical and hospital services. It is probable that the more of these characteristics a family has the higher the degree of family disability it will experience.[3/] Keeping in mind that the M and NM populations studied here are made up of southern

Black families, the following three questions are posed to guide the analysis:

(1) Do nonmetropolitan Black families experience more frequent and higher degrees of disability than metropolitan Black families?

(2) Does the metropolitan-nonmetropolitan differential increase as education of homemaker, level of income, and occupational status of the main breadwinner increase?

(3) Does family disability decrease as education of homemaker, level of income, and occupational status of the main breadwinner increase?

Logically, on the conceptual level, it is necessary to first define what one means by "abled" before arriving at a definition of disability. Just what is it that one does which makes him classified as abled? In this society the different age groupings have fairly well delineated roles they are expected to be able to perform. Generally, children around six or younger are expected to play; children between the ages of six or seven and around eighteen (although sometimes the upper limit increases because of college students, bringing the upper limit to twenty-one) are expected to go to formal school for twelve years and graduate (The expanded upper limit takes in those who are expected to go to college for four years and graduate.); the population between the ages of twenty-one or eighteen, depending on the circumstances, and sixty-five or thereabout are expected to perform some meaningful work function; those over sixty-five are expected to play or work or just retire and stay out of the way (Our society really does not have a well defined role for this group.). If unable to perform the function along the lines above because of some mental, physical or emotional problem, the person is labeled as disabled. As far as degrees of disability go, from this conceptual

definition of disability, the more able one is to perform the function his age group is expected to be able to perform (player, student, worker, retiree) the less disabled he is. Operationally, on an empirical level, disability should be measured by varying degrees of ableness to perform the function which the individual's age group is expected to perform (given the above conceptual definition of disability). In this study the measures were of this nature.

The education of the homemaker is here considered as a family characteristic because the female homemaker is the only member present in all of the families (by virtue of the fact that she is the respondent). The homemaker's education was also selected because of the assumed matriarchal structure of the Black family, the assumed role of the homemaker as the one who takes the responsibility for family health maintenance, and the assumed influence of education on information assimilation.[4/]

Level of family income has been demonstrated to have a differential effect upon a family's access to health services (Stitt, 1965:104). This factor is expected to differentiate between families with varying degrees of disability, as are the other variables under consideration, because of its influence upon the accessability of health, medical and hospital facilities and services (See footnote 3.). It is a well known fact that, in general, urbanites have higher incomes than their rural counterparts, hence, the control for income.

Occupation of the main income source was selected as a variable because of the influence of social status on access to health facilities. This also is seen as a family characteristic because each family has a main income source.

It is expected that there is a fairly high correlation among these three family attribute variables because of their common tie with SES;[5] however, they are sufficiently different in character and impact on the unit that each is expected to differentiate among the families on the variable, family disability, independently.

## SELECTION, INTERVIEWING, AND DESCRIPTION OF FAMILIES

The data for investigating these questions were obtained from a larger study (NC-90) structured to comprehensively study the nature of Black families in a large metropolitan center, a small town (about 5,000 population) and two small open-country villages in East Texas. The small town and two villages are combined for analysis in this study because the small number of village families with disabled members made statistical comparisons with the other populations unfruitful, and because the small town and village populations were similar to one another with regard to disability (See Appendix A for town-village comparisons.).

A description of the larger study and the nonmetropolitan sample, with village and town comparisons on general characteristics, was presented in Kuvlesky and Cannon (1971). The respondents were Negro female homemakers not over 65 years of age and not under 18 (unless they were the mothers of at least one child) having children in the household. All persons in the nonmetropolitan areas who met these criteria were designated as the population, and over 94% of them were interviewed in June of 1970.[6] A predominately Negro, low-income area (as determined by census information) was selected in the metropolitan area from which to draw a sample (A one-half sample was decided upon.). The area was then mapped

using aerial photographs, maps and personal observation to locate all buildings in the area.[7/]

Black female interviewers were enlisted from other areas of the metropolis and given a week of intensive classroom training and field testing on the NC-90 regional questionnaire which took about an hour and a half to administer.[8/] All of the interviews were evaluated each night by a field supervisor.[9/] Validation and reliability checks were run by one of the most capable interviewers (None of the items used in this analysis were problematic in this regard.). The interviewing was done during the month of June, 1971, with some clean-ups and reliability checks going over into July. Those who could not be contacted or identified as eligible or ineligible by neighbors were replaced using a random procedure.

## Characteristics of M and NM Respondents

The respondents were southern, nonmetropolitan and metropolitan, Black, female homemakers. Table 1 summarizes the disposition of the families contacted throughout the various phases of the interviewing process. How do the M and NM groups compare in nature of family and living circumstances? Comparisons are briefly summarized on selected attributes below (See Appendix B for tabular presentation.).

Education of Respondent - There were no differences between the M-NM populations with regard to the education of the homemaker (One would expect a higher level in the M areas.). 93% of the homemakers had 12 grades or less of formal schooling. Almost one-third of both populations fell in each of the following three groups: 8 grades and less than 8 grades, 9-11 grades, and 12 grades completed. About 5% of the respondents had some college or graduate work.

Table 1. Disposition of Families Contacted in Nonmetropolitan and Metropolitan Areas.

| Action | Nonmetropolitan | Metropolitan | Total |
|---|---|---|---|
| | Number | | |
| Households Contacted | 556 | 802 | 1358 |
| Households Eligible | 264 | 302 | 566 |
| Homemakers Interviewed | 259 | 294 | 553 |
| Families Analyzed | 259 | 294 | 553 |
| Individuals in Families Analyzed | 1393 | 1372 | 2765 |

Age of the Respondent - Both populations were similar on this variable. More than half of the homemakers were between 26-45 years of age. The remaining homemakers were fairly evenly distributed under 26 and over 45 years of age. The mean age of the respondents was 37.

Size of Family - The NM families were slightly larger than the M families. The main difference was that M respondents tended to have more small families (4 or less people).

Family Structure - As might have been expected, NM families were more likely to have a husband present than M ones. The differentiating factor in the structure of the families of the two populations was the presence or absence of a husband rather than the nuclear-extended distinction. The majority, about three-fourths, of all families were nuclear.

Family Income - A reversal of the general trend was noted in family incomes between the M and NM families. NM families had an average $500 higher income than M families (Although no analysis was done on per capita income because of time limitations, roughly calculated figures show M at $1009 and NM at $972.) The largest percentage of families fell in the marginal ($3000 - $5999) category. One-half of the families were split equally between the inadequate (under $3000) and the moderate ($6000-$9999) categories. The major residence difference was that NM families fell largely in the moderate and M ones, largely in the inadequate category.

Occupation of the Main Income Source - 84% of the main breadwinners held low prestige jobs (semi-skilled wage earners or lower). The NM breadwinners were twice as likely to be semi-skilled, and about two-thirds as likely to be unskilled as the main income sources in the

metropolis. The M breadwinners, in general, had lower occupational prestige than the NM ones. This too signifies a reversal in the normal M-NM trend. More than twice as many of the M breadwinners as the NM ones were unemployed (25% to 11%).[10/]

Relation of the Main Income Source to the Respondent - A difference which was reflected in the family structure also came out in the relation of the main breadwinner to the homemaker. M respondents were twice as likely as NM respondents to be the main breadwinner. In well over 90% of the cases the main income source was the homemaker or her husband.[11/]

Flush Toilets - Virtually all of the M families had flush toilets in their homes while only a little more than half of the NM families did (Two-fifths of the NM families had no flush toilets available to them.).

Piped Water - Again, almost all of the M dwellings had hot and cold piped water; whereas, slightly over half of the NM families did. One-fifth of the NM families had cold piped water, and one-fourth of them had no piped water.

Size of the Dwelling - The two populations were slightly different with respect to the size of their dwellings (significant beyond .10). The NM families had slightly smaller dwellings than the M families. Over three-fourths of the families lived in dwellings having between four and six rooms. In general, there was one room for each person in both M and NM families.

M and NM respondents did not differ in either education or age. The M families were slightly smaller with fewer husbands present and more homemakers playing the role of main breadwinner than in the NM families.

The M main breadwinners had lower occupational prestige, and their families had lower family incomes than NM families. M families had better physical facilities (flush toilets and hot and cold piped water) as well as slightly larger homes. The reversal in the normal M-NM trend on education of the homemaker, family income and occupational prestige of the main breadwinner noted can be easily explained by the procedures used in the selection of the respondents. The gamut of possible responses is more completely covered in the NM population (by virtue of the fact that it is a population); whereas, the M sample restricts the possibilities on these three variables. The M sample was selected, as previously stated, from a predominately Black, lower class ghetto in the metropolis and, therefore, is not a sample represenative of Black families throughout the metropolis.

## INSTRUMENT AND MEASURES

Several variables are involved in this study. Dimensions of family disability represents the key focus and dependent variable cluster. Income level, education of homemaker, and occupational status of main breadwinner are other variables utilized in the analysis to follow. A brief description will be given of the indicators and measurements used for each of these.

### Disability

The stimulus question for disability was "Is anyone in this family sick all the time or disabled in anyway?" If the respondent said there was, she was asked to describe the seriousness of the disability along the following lines:

FOR EACH PRE-SCHOOLER ASK:
Which of the following best describes his (her) ability to play?
5. Not able to take part at all in ordinary play with other children.
4. Able to play with other children but limited in amount or kind of play.
2. Not limited in any of the preceding ways.

FOR EACH CHILD IN SCHOOL ASK:
Which of the following best describes his (her) ability in school and activities?
5. Not able to go to school at all.
4. Able to go to school but limited in certain types of schools or in school attendance.
3. Able to go to school but limited in other activities.
2. Not limited in any of the preceding ways.

FOR EACH OTHER FAMILY MEMBER ASK:
Which of the following best describes his (her) ability to work?
5. Not able to work (or keep house) at all.
4. Able to work (keep house) but limited in kind or amount of other activities.
3. Able to work (keep house) but limited in kind or amount of other activities.
2. Not limited in any of the preceding ways. (NC-90-Patterns of Family Living Questionnaire, 1970:3)

The responses were coded "1" if the person was not disabled and "2" through "5" for the various degrees of disability indicated above. With "1" being the lowest degree of disability (none) and "5" being the highest (not able to work, et cetera), the distinctions in the instrument were kept for the measures in this analysis. In the preliminary analysis the "1" category was dropped for more definitive differentiations among the degrees of disability of disabled family members.

The family disability index to be utilized in the primary analysis is a composite index weighted for family size and degree of disability and converted to a zero to 99.0 scale. A family disability score of 99.0 was the highest possible (The fractions were dropped using only the integer figures.) meaning that no member could work, et cetera. A family disability index of 0.0 was the lowest possible

meaning that there were no members in the family with disabilities. The individual disability codes used in the preliminary analysis were recoded to 0-4 simply subtracting one from each of the previous codes. The family disability index was computed for each family by summing the recoded degrees of disability for each family and dividing by the number of members in the family.[12/] This figure was then multiplied by 25 to convert it to a scale of 0.0 to 99.0 thus expanding the spread of measured differences and making the index scores easier to interpret.

Several apparent weaknesses or limitations of the disability measure and family disability index have been considered. There is no objective criteria used to determine actual physical, mental or emotional problems but instead the homemaker's subjective evaluation of the member's ability to perform some function. The homemaker is probably the one who decides who is well enough to go out to play, go to school or work and probably exerts her influence and power to keep members home when she believes they are too ill, et cetera. An apparent weakness of the index is that a family with one member disabled out of four is given a higher score than a family with one member disabled out of seventeen; however, Dow (1965) studied the reaction of small and large families to a physical disability in one child of each family and found that the small families reacted more extremely than did the large families. It is suggested then that the family of four should have a larger disability index than the family of seventeen in this case. A real limitation which is a weakness of all scales is that there are gaps into which some families can not fall. It is doubtful that these gaps will affect comparisons between families.

## Education of Homemaker

The education of the homemaker was obtained from responses to the question "What was the last school grade you completed?" The responses were coded "00" for kindergarten, "01" through "16" for public school and college years completed, "17" for graduate study, "18" for preschool and "20" for no school. The measures selected for this analysis were less than 8 grades, 8 grades, 9-11 grades, 12 grades, and college or graduate school. The college and graduate school categories were combined, and some college and years completed were not differentiated because of the small number of cases in each. The rest of the categories were logical and consistent with common practice. A differentiation between elementary and high school was made (One to eight grades was elementary, and nine to twelve grades was high school.). A further distinction was made between having some elementary or high school and having graduated from either elementary or high school. The homemakers who had no schooling were combined with the "less than eight grades" category.

## Income

The respondents were asked to indicate their families' sources of income "during the past year" from an elaborate listing of sources of family income (Appendix C presents this list.). Each respondent was then asked to supply the amount of income from each source she had indicated. The income figure used in this analysis was computed by summing all income figures for all sources of income except gifts and inheritances (money gifts, prizes, windfalls, money inherited, and lump sum life insurance benefits). If the respondent had indicated the family had received income from some source but would not or could not supply the

amount of income from that source (The amount was not recorded if less than $100, and that source was not considered in analysis.), a family income figure was not arrived at, and those families were indicated as having no response for the total income figure. The levels of income used for this analysis are: (1) under $3000, (2) $3000-$5999, (3) $6000-$9999, and (4) $10,000 or over. A family income under $3000 is considered inadequate (See Kuvlesky and Wright, 1965:2-4, for discussion of the merits and problems of this distinction.); an income of $3000-$5999 is considered marginal; an income of $6000-$9999 is considered moderate, and an income of $10,000 or over is considered adequate.

## Occupational Status

The main breadwinner was determined by the response of the respondent to a question asking her to identify the family member who was the main income source for the family during the last twelve months. This was a subjective evaluation of the respondent and did not necessarily reflect who actually was the main income source for the family. The respondent was asked to list the type of employment, amount of time worked at each type and amount of money which was brought home for each type for each family member who earned more than $100 during the past twelve months. The occupation of the main breadwinner was determined by this listing using the type of employment from which the main income source received the most income during the past year. The original codes of the occupations were as follows: (0) not employed in the past 12 months nor operating their own business, (1) armed forces, (2) wage earner, unskilled, (3) wage earner, semi-skilled, (4) wage earner, skilled, (5) clerical, sales, technicians, (6) salaried, professionals, officials, (7) all self-employed,

including farm and non-farm, any size operation (family business), and (9) no information. For the purpose of this analysis the occupational data were grouped into six broad classes as followed:

(1) Professional, technical and self-employed

(2) Low prestige white collar (clerical, sales, technicians)

(3) Skilled blue collar

(4) Semi-skilled blue collar

(5) Unskilled blue collar

(6) Unemployed

Because of the low percentage of both professional and self-employed, and for other reasons, they were grouped together.[13/] The unemployed was kept as a separate classification because of the relatively large percentage in it and because it was seen as the lowest possible level of occupational prestige (unemployed). It is possible that some who were in this category may not have been considered in the labor force, but the chief consideration was the placement of the main income source at some point in a hierarchy of occupational prestige.

## PROJECTED ANALYSIS

This study is ex post facto, and no pretense is being made to test hypotheses in the normal sense. The questions used are simply guides for analysis and cannot be conclusively answered with the findings obtained here. The information gained will be used in guiding the development of an in-depth study of the problems particular to families with disabled members. The following specific questions are posed to serve as objectives for analysis:

Preliminary Analysis

(1) Do nonmetropolitan Black families experience more frequent and higher degrees of disability than metropolitan Black families?

Primary Analysis

(1) Is the mean of family disability scores larger for the non-metropolitan population than the metropolitan sample?

(2) Will the difference between the metropolitan and nonmetropolitan means of family disability scores increase as:
   (a) the education of the female homemaker increases?
   (b) the level of family income increases?
   (c) the occupation of the main income source of the family increases?

(3) Do the family disability scores decrease as:
   (a) the education of the female homemaker increases?
   (b) the level of family income increases?
   (c) the occupation of the main income source of the family increases?

The preliminary analysis will key on the frequency distributions of the number of families and individuals actually affected by disabilities. The primary analysis will focus on the family as a unit by means of a composite indicator (family disability index) of family disability. A tabular presentation of the findings will be presented and discussed textually.[14/]

## FINDINGS

### Preliminary Analysis

Among the Black, East Texas families studied here, there were no substantial M-NM differences observed in reference to either the family units experiencing member disability or the number of individuals disabled (Tables 2 and 3). However, a comparison of these two tables produces an important observation. While the proportion of the total individuals involved in disability is small (7%), the proportions of the number of family units involved is much larger and substantial (M=23% and NM=29%).

Table 2. Percentage Distribution of Metropolitan and Nonmetropolitan Families with Disabled Members, No Disabled Members, and No Response.

| Families with: | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| Disabled Members | 29 | 23 | 26 |
| No Disabled Members | 71 | 75 | 73 |
| No Response | 0 | 2 | 1 |
| Total | 100 | 100 | 100 |

$X^2$=2.09 df=1 .10 < P < .20

*$X^2$ excludes no response.

Table 3. Percentage Distribution of Metropolitan and Nonmetropolitan Individuals with a Disability, No Disability, and No Response.

| Individuals with: | Nonmetro (N=1393) | Metro (N=1372) | Total (N=2765) |
|---|---|---|---|
| | Percent | | |
| Disability | 7 | 7 | 7 |
| No Disability | 93 | 91 | 92 |
| No Response* | 0 | 2 | 1 |
| Total | 100 | 100 | 100 |

$X^2$=.18 df=1 .50 < P < .70

$X^2$ excludes no response.

A lack of statistically significant and substantial M-NM differences was also observed in reference to both number of disabled in the family and degree of member disability among those units having disabled members (Tables 4 and 5). A large majority of families (72%) in this state had only one member disabled, and few had as many as three (Table 4). On the other hand, degree of disability experienced was most often very acute: limiting, or prohibiting employment (Scores 3 and 4). Another quarter of this group experienced disability serious enough to be limiting in some respect other than employment.

Do M-NM differences exist in reference to which family members are disabled? Again, a lack of substantial M-NM differences was observed (Table 6). In both cases, the homemaker-mother was most often disabled, followed by a child. The husbands and "others" (including parents) were the household members least likely to suffer disability. The distribution of disability among family roles is spread widely but somewhat unevenly. Although the differences are not satisfically significant, it is interesting to note that NM families are three times more likely to have a disabled grandparent present (18% as compared with 6%) than M families--perhaps indicating a deeper concern with extended family relations among the NM Black population.

Having made a preliminary examination of the attributes of disability using measures of individual disability, the next task is to examine in depth the relationship of each of several social variables to family disability: place of residence, education of the homemaker, family income and occupational prestige of the main income source.

Table 4. Percentage Distribution of Metropolitan and Nonmetropolitan Families with 1, 2, and 3* Of Their Family Members Disabled.

| Number in Family Disabled | Nonmetro (N=75) | Metro (N=68) | Total (N=143) |
|---|---|---|---|
| | Percent | | |
| 1 | 70 | 75 | 72 |
| 2 | 25 | 18 | 22 |
| 3 | 5 | 7* | 6* |
| Total | 100 | 100 | 100 |
| Mean** | 1.36 | 1.37 | (1.36) |

$X^2$=1.36 df=2 .50 < P < .70

** F=.04 df=1, 141 Not Significant

*Includes one family with four and one family with five members disabled.

Table 5. Percentage Distribution of the Degrees of Disability of Metropolitan and Nonmetropolitan Individuals with Disabilities.

| Degrees of Disability | Nonmetro (N=102) | Metro (N=93) | Total (N=195) |
|---|---|---|---|
| | Percent | | |
| 1. Not limited (Lowest) | 13 | 13 | 13 |
| 2. Able to Work but Limited in other Activities | 23 | 24 | 23 |
| 3. Able to Work but Limited in Work | 36 | 42 | 39 |
| 4. Not Able to Work (Highest) | 28 | 21 | 25 |
| Total | 100 | 100 | 100 |
| Mean* | 2.80 | 2.72 | (2.76) |

$X^2$=1.36 df=3 .70 < P < .80

*F=.36 df=1, 193 Not Significant

Table 6. Percentage Distribution of the Relation of Disabled Family Members to the Female Homemaker by Place of Residence.

| Relation to Female Homemaker | Nonmetro (N=102) | Metro (N=93) | Total (N=195) |
|---|---|---|---|
| | Percent | | |
| Respondent | 33 | 41 | 37 |
| Spouse | 14 | 16 | 15 |
| Son/Daughter | 29 | 27 | 28 |
| Parent | 18 | 6 | 12 |
| Others | 6 | 10 | 8 |
| Total | 100 | 100 | 100 |

$X^2 = 6.91$ df=4 $.10 < P < .20$

## Primary Analysis

The primary analysis will rely upon the family disability index described earlier. NM and M family disability will be compared utilizing aggregate index scores and index scores controlled on three family attribute variables: education of homemaker, family income and occupational status of the main breadwinner. Then, the relationship of each of these three variables to family disability will be analyzed.

### Family Disability by Place of Residence

Among the Black families studied here, there was no difference between the aggregate NM and M family disability scores (Table 7) -- the M and NM families did not differ in the degree of family disability they experienced. This may be due to the lack of expected differences in SES between the two populations that were discussed previously. The question still remains as to what extent M-NM residence influences family disability when these other factors are controlled.

The aggregate mean of family disability for all families was a low 4.9 in relation to the 0-99 possible range. While this is low in the absolute sense, given the potential range of scores, it is probably higher than that which would be demonstrated by a White, middle-class, suburban group. M and NM families were similar, then, in exhibiting a low degree of family disability. How do M and NM families compare on family disability with education of homemaker, family income and occupation of main breadwinner controlled?

No consistent pattern of NM-M differences existed on family disability by levels of education of the homemaker, by levels of family income, or by

Table 7. Family Disability Index Means for Nonmetropolitan and Metropolitan Families.

| | Nonmetro (N=259) | Metro (N=289) | Total (N=548) |
|---|---|---|---|
| Family Disability | 5.2 | 4.6 | (4.9) |
| F= .47 | df= 1, 546 | | Not Significant |

Table 8. Family Disability Index Means for Educational Levels of Homemakers by Place of Residence.

| Educational Levels | Nonmetro* (N=257) | | Metro** (N=281) | | Differences |
|---|---|---|---|---|---|
| | -----Family Disability----- -------Index Means------- | | | | |
| Less than 8 grades | 9.1 | - | 8.1 | = | 1.0 |
| 8 Grades | 6.7 | - | 8.6 | = | -1.9 |
| 9-11 Grades | 3.2 | - | 5.6 | = | -2.4 |
| 12 Grades | 4.0 | - | 1.3 | = | 2.7 |
| College or Graduate Study | 7.0 | - | 1.6 | = | 5.4 |

| | | | |
|---|---|---|---|
| *$\beta_1$ = -0.63 | t= 2.86 | df= 256 | P<.005 |
| **$\beta_1$ = -1.15 | t= 4.47 | df= 280 | P<.0005 |

*Regression on NM with X= education levels (run on raw data with 20 levels of education possible) and Y= family disability index. $\beta_1$ = slope and t= effect of X on Y.

**Regression on M.

levels of occupational prestige of the main breadwinner. The NM-M differences were predicted to increase as the levels of each of the above variables increased. It was obvious from an examination of NM-M differences that they did not increase as predicted in a consistent fashion.

The NM-M differences between mean family disability index scores increased as level of education increases; however, in the mid-categories a reversal in sign took place with M scores indicating higher family disability than NM ones at these levels (Table 8). The trend of differences was as predicted--the NM-M differences became larger as the educational levels increased. The substantial NM-M differences in family disability in the upper levels of education became smaller and even reversed in the mid and lower levels — education did differentiate between the NM and M families on disability positively.

NM-M differences between mean family disability index scores decreased between the two lowest income levels and stayed within fractions of that difference through the two highest income levels: this signifies a reversal in the expected trend of NM-M differences. NM family disabilities were higher than M ones in the lowest two levels; whereas, they were lower in the highest two levels of income (Table 9). Income, then, differentiated negatively between NM and M families on disability--differences decreased as income increased even reversing in the two highest categories.

Through levels of occupational prestige of the main breadwinners, the NM-M differences decreased while moving upward through the lowest three levels, contrary to what was expected, but varied in an unpatterned manner at higher levels. There was no difference between the NM and M families on two levels (semi-skilled blue collar and low prestige white collar)

Table 9. Family Disability Index Means for Income Levels of Nonmetropolitan and Metropolitan Families.

| Income Level | Nonmetro* (N=250) | | Metro** (N=278) | | Differences |
|---|---|---|---|---|---|
| | Family Disability Index Means | | | | |
| Under $3000 | 11.8 | - | 7.2 | = | 4.6 |
| $3000-$5999 | 5.1 | - | 4.2 | = | .9 |
| $6000-$9999 | 2.0 | - | 2.8 | = | -.8 |
| $10,000 and over | 0 | - | 1.0 | = | -1.0 |

| | | | |
|---|---|---|---|
| *$\beta_1$ = - .0011 | t= 5.24 | df = 249 | P<.0005 |
| **$\beta_1$ = - .0005 | t= 2.73 | df = 277 | P<.005 |

*Regression on NM with X=family income (run on raw income figures) and Y=family disability index.

**Regression on M.

--these are on the fringes of more well defined social prestige levels. On all other levels of occupation the NM families had higher disability than the M ones. Occupation, then, differentiated between NM and M families on disability negatively through the lowest three levels of occupational prestige, but in the upper three levels it differentiated erratically (Table 10).

To summarize, in answer to the second question for primary analysis, NM-M differences in family disability scores did not follow the predicted pattern. They were generally mixed by levels of education and income; whereas, on occupation, the M scores were consistently lower than the NM ones. In mid-categories of education and in the upper half of income levels the M scores were larger than the NM.

It can be concluded that for these data NM-M residence alone did not differentiate on family disability. Education, income and occupation, on the other hand did differentiate between NM and M families on disability--education differentiated positively while income and occupation generally differentiated negatively (with the exception of the highest three levels of occupation). These conclusions give rise to another question: how does education, income and occupation relate to family disability with place of residence controlled?

Family Disability and Education, Income and Occupation

Each of the three variables will be considered in turn. Each will be examined subjectively by levels, then statistically: by raw data using regression, (education and income) and by levels using rank correlation (occupation).

Table 10. Family Disability Index Means for Occupational Status of Main Income Source by Place of Residence.

| Occupational Level | Nonmetro* (N=259) | | Metro** (N=288) | | Differences |
|---|---|---|---|---|---|
| | -----Family Disability Index Means----- | | | | |
| Not Employed | 16.6 | - | 11.2 | = | 5.4 |
| Unskilled Blue Collar | 5.4 | - | 2.3 | = | 3.1 |
| Semi-skilled Blue Collar | 1.0 | - | 1.0 | = | 0 |
| Skilled Blue Collar | 2.6 | - | 1.1 | = | 1.5 |
| Low Prestige White Collar | 1.0(n=5) | - | 1.0 | = | 0 |
| Professional, Technical and Self-employed | 6.1 | - | 0 (n=2) | - | 6.1 |

| | | |
|---|---|---|
| *$r_s$ = .37 | n = 6 | Not Significant |
| *$r_s$ = .6 | n = 6 | Not Significant |
| **$r_s$ = .94 | n = 6 | $P < .05$ |

*Rank correlation of NM family disability scores by levels of occupational status (theoretical ranks correlated to actual ranks of the scores). The second coefficient on NM excludes one family in the Professional category having a score of 41, and the mean for that category was adjusted to 3.5. This was one family out of 19.

**Rank correlation on M.

NM family disability scores decreased through the lowest three educational levels then increased through the highest two levels. The M means behaved about as predicted when the five categories were reduced to three combining the first two categories into one and the last two categories into one (Table 8). Regression analysis on the 20 raw education categories showed that education negatively affected family disability for both M and NM families. It can be concluded that family disability did decrease as the educational level of the homemaker increased.

Degree of family disability decreased as family income levels increased for the four categories used (Table 9). Regression analysis using the raw income figures also showed the same pattern; therefore, it can be concluded that family income also affects family disability negatively.

Through the lowest three levels of occupation, family disability scores decreased as predicted; however, the NM scores varied in the highest three levels while the M ones decreased slightly remaining very low (Table 10). In both the M and NM families the disability scores were the same for two fringe categories: semi-skilled blue collar and low prestige white collar. Because equidistant categories could not be assumed in the occupational levels (necessary for regression), rank order correlation was performed on both M and NM family disability scores by occupation. The theoretical rank order (as occupational levels increase, family disability scores decrease) was correlated with the actual rank order of the disability scores by occupational levels. Through the occupational categories the NM disability scores did not correlate significantly with the theoretical rank order although the order was

observed through the lowest three levels.[15/] M disability scores were highly correlated with the theoretical order for occupational levels; therefore, it can be concluded that occupational prestige of the main breadwinner did negatively affect family disability for the M families, and for the NM families through the lowest three occupational levels only.

In summary as answer to the third question for primary analysis, the family disability scores did decrease as education of the homemaker, level of family income, and, to a certain extent, occupational prestige of the main income source increased. An important exception to this was that the NM disability scores decreased through the lowest three levels of occupation but then varied inconsistently through the highest three levels.

From the above primary analysis it appears clear that these three SES variables had more significance on family disability than M versus NM community type characteristics. While M-NM place of residence did not significantly (without SES controls) nor consistently (with SES controls) affect family disability, the SES variables consistently and significantly (with one exception) affected family disability negatively.

## Summary of Findings

Preliminary analysis on M-NM attributes of disability will be summarized first and followed by a summary of the primary analysis in three areas: comparison of M and NM Blacks on the index of family disability, NM-M differentials in family disability by selected control variables, and family disability scores by education of homemaker, family income and occupation of main breadwinner controlling for place of residence.

M-NM Comparison on Attributes of Disability

There were no M-NM differences with regard to the attributes of disability herein examined. A substantially larger portion of families were affected by disability than individuals. The families affected by disability generally had one disabled member, and that tended to be the homemaker or one of her children. When disability existed in the family, degree of disability for the individuals involved tended to be acute.

Comparison of M and NM Blacks on Index of Family Disability

Findings:

1. No difference between M and NM family disability scores.
2. Mean family disability scores for both M and NM were small in relation to the possible range.

Conclusion:

M and NM Black families were similar in exhibiting a low degree of family disability.

NM-M Differentials in Family Disability Scores by Selected Variables

Findings:

1. No consistent pattern of NM-M differences in family disability by education of homemaker, family income, or occupational prestige of main breadwinner as expected originally.
2. Family disability was greater in M than NM families in the mid-level range of formal education.
3. Degree of family disability was higher in M than NM families among upper-half range of income.
4. Where a NM-M difference existed by occupational level of main breadwinner, M family disability was lower than NM.

Conclusion:

The NM-M differences observed in degree of family disability were not patterned consistently as expected through levels of education,

income or occupation. While not patterned consistently, the impact of these social attributes on disability did appear to vary often by NM-M residence.

Family Disability and Education, Income and Occupation

Education, income and, to a certain extent, occupation negatively affected family disability. The lone exception was that NM family disability scores decreased through the lowest three occupation levels but varied inconsistently through the highest three levels.

General Conclusion

Education, income and occupation had more significant affect on family disability than did M-NM residence.

## DISCUSSION

The authors are limited in attempting to generalize the findings and conclusions reported above beyond the groups involved in this study because the populations involved are homogeneous and relatively small. General conclusions can not be drawn about M and NM differences because the M sample is not representative of the total metropolis.[16/] Another impediment to generalizing these results is a lack of prior empirical findings to use for direct comparisons. Nevertheless, this relatively unique set of findings does offer the opportunity to draw productive inferences of an empirical and methodological nature and to provide suggestions for future research in this badly underworked problem area. This set of findings and operations can serve as a guide to stimulate and begin such additional efforts.

## Extending Empirical Knowledge

This research contributes descriptive information to the demographic data on Black, southern, M and NM families as well as to the relatively unexplored area of family disability. Individual and family disability have been the subject of research efforts before, but, as in many areas, researchers at times try to explore the psychological or sociological effects or methods of coping or even possible solutions before adequately describing the populations involved and the extent of the problem. This seems to be one of the problems with the research in family and individual disability. The disabled population, particularly with regard to family disability, has not been described on key social variables. Although limited indeed, the descriptive work presented in this paper begins to fill this empirical gap. Of particular significance in this regard are the following conclusions from the findings:

1. Family disability is prevalent, even though disabled individuals are few, among southern Blacks.

2. M-NM residence does not influence disability as much as SES attributes.

As indicated above, disabled families need to be more adequately described on important social and socio-psychological variables. Differentials in distributions need to be described for such variables (taken one at a time while holding the others constant) as place of residence, education, income, occupation, family structure, race, religion, availability of health facilities, physical facilities in dwelling, role in family, et cetera. Following directly from the work on distributions needs to be analysis which describes the effect, if any, of each of those social and socio-psychological variables upon family disability. The next logical step, then, would be to describe the effects of family disability on various social relationships of the family and its members and their

development or standing in the social arena. What effect does family disability have upon where the family lives, how much education, income or occupational prestige its members can obtain, how high the family may go in the social system? Does family disability affect the values, aspirations, expectations, attitudes, et cetera, held by its members? Are neighboring patterns, organizational participation patterns, et cetera, of the family or interpersonal relations, structure, et cetera, within the family affected by family disability?

Before the above questions can be explored adequately one must be able to measure family and individual disability in a meaningful and consistent way in order to accumulate empirical knowledge.

## Extending Methodological Knowledge

The research presented in this paper has contributed substantially to methodology through development and use of a measure of family disability. Individual disability was defined as not being able to perform some meaningful social function approved for the age group to which the individual belongs. It was measured in that way yielding four possible degrees of disability. The family disability index was constructed to measure family disability: it was weighted for family size, number in the family disabled, and the degree of disability of disabled members. Since prior work in this area is lacking, several suggestions are given for future research needs.

Is the definition of disability utilized in this study the best? Agreement on the definition of disability, or at least agreement on several alternative types of disability, needs to be reached before research will become accumulative. Should disabilities be defined as a

doctor diagnosed mental, physical or emotional handicaps? Should it be diagnosed by the individual, parents, family or others? Should it be defined as not being able to perform some economic, social, physical or mental function described by government, medical, psychological, sociological personnel or the community, family, peers, et cetera? These are some alternative ways of approaching the concept. The conception and measures of disability used in this work have demonstrated utility sufficiently to warrant further examination.

Research needs to be done to identify acceptable social functions for specific portions of this society. These functions may vary with region, class, race, et cetera. Only after these acceptable social functions have been established for a particular group at a particular time (for these functions will more than likely change through time) can "disabled" people be identified by the method used here.

Another question in this regard is "Is the subjective way of securing a response the best or are there viable alternatives? Could work or school attendance records be more helpful in determining the extent of disability or should the individual be asked instead of the homemaker? In utilizing the social function focus, it seems that some social unit should decide the ableness of the individual to perform the accepted social functions of his age or social group. Should this social unit be the family, community, peers or others? These questions need to be thought out and explored more deeply by future efforts.

Lastly, in regard to individual disability, are the four degrees used here sufficient to record the person's disability accurately? In the measure used here a person can have a degree of disability even though the social function is not affected whatsoever. With a further

explication of the accepted social functions of a particular group, a checklist might be employed instead of the question, "Is anyone disabled or sick all the time?" Alternatives for each of the above three issues will change and narrow somewhat as decisions are made accepting certain alternatives and rejecting others. As the scope narrows and the measurement of individual disability becomes more well defined, the focus should shift to the family unit and the family disability index.

Alternative methods of calculating the family disability index need to be explored. In this regard weights should be the prime focus--weights for different family roles such as homemaker, head of family, main income source of the family, oldest child, et cetera. These weights could be constructed around several different structural or functional aspects: economic roles (how much of the family's total income a person contributes), structural roles (husband, wife, parent, child, et cetera), functional roles (cook, housekeeper, shopper, breadwinner, child-rearer, outside information getter, family medical diagnostician, et cetera), and roles relative to family representation in the social system (PTA member, room mother, little league coach, et cetera). A different way of weighting might use the age of the members and total family income as determinants of the degree of family disability a family has--an old family of three with a high family income and one member disabled would not be considered as disabled as a young family of three with a lower family income and one member disabled. Of course this is a very complex problem and will take considerable research to arrive at a highly sophisticated and precise family disability index.

This research has documented the severity of a little explored problem: family disability. One-fourth of the families studied, regardless of place of residence, were affected by this problem while only seven percent

of the individuals were. With a problem of this magnitude in southern Black families, it seems imperative that family disability be given more research emphasis. Implications should also be drawn by appropriate policy making agencies.

FOOTNOTES

1. The regional project (NC-90) is an interdisciplinary, interstate study which attempts to ascertain factors related to families' intergenerational perpetuation of poverty. The Texas Agricultural Experiment Station collected data from a sample of southern, rural and urban Negroes. Other state experiment stations cooperating on the regional project are Hawaii, California, Nevada, Nebraska, Kansas, Iowa, Missouri, Wisconsin, Illinois, Indiana, Ohio, and Vermont. The NC-90 technical committed took the responsibility for developing the instrument which was used by all the participating states.

2. The Chamber of Commerce of the town supplied the following information by phone regarding health services in the East Texas county studied (It is the county seat.). The population of the county runs around 20,000 with the large majority of them getting all of their medical services from the town (A few go to a city about 60 miles away or another town about 30 miles away.). It houses the only hospitals in the county--two public hospitals with 50 beds each. There are three private clinics run by the physicians of the town and one clinic in the north-west area of the county which is in need of a physician at the present. All seven general practioners in the county are there and one specialist drives from another town 30 miles away once a week. There are three dentists and four drug stores there which serve the entire county,and their two funeral homes provide 24 hour ambulance service. Taking the figures above, there was one physician for each 2500 people, one hospital bed for each 200 people, and 6667 people for each dentist.

   Houston, from which the M sample was drawn, is known throughout the nation for its Texas Medical Center. It is the sixth largest city in the nation and the largest city in the south. There is a public mental health clinic in the study area, ten miles from the medical center. Private taxi, and city bus and ambulance (run by fire department) service is available to residents of the study area. The Houston Chamber of Commerce said the approximate population of Harris county is 1, 832,000. They also said that there are 56 hospitals with over 10,700 beds in Harris county. The Harris County Medical Society said they have 2500 physician members but that membership in the society is not mandatory (A double check of physicians in the Houston phone directory confirmed that figure as a fair approximation of physicians in Harris county.). The phone book also yielded figures for clinics at over 100, dentists at over 800, and drug stores at around 400. These figures show that there are approximately 730 people per physician, 170 people per hospital bed, and 2290 people per dentist.

   From these figures it is apparent that the NM population had less medical service available than the M population. Of course, the figures given above might not indicate the relative access of these Black respondents to medical and health services.

3. Since each of the above factors have been demonstrated to have influence on the accessability to health, medical and hospital facilities and services, it is assumed that the more of these characteristics a family has the less likely they are to have access to these facilities and services. At this point an empirically unfounded but apparently logical assumption is espoused: the less access a family has to health, medical and hospital facilities and services the greater the probability that family will experience disability among its members. Taking this assumption, the next proposition follows: the more characteristics which lessen access a family has, the higher the degree of disability the family will experience. In this study only a portion of this proposition will be explored (See question 3.), leaving the exploration of the combined effect of these on family disability to be explored at a later date.

4. Information assimilation is seen as a major determining factor in knowledge of what signifies and illness or injury needing treatment, modern cures available, and the location of medical services and how they may be obtained.

5. A rank correlation was run for both M and NM families on the three major variables here: education of homemaker, family income, and occupation of main breadwinner. The $X^2$ value for M families was 19.5 (df=7) which was significant beyond the .01 level. The $X^2$ value for NM families was 15.6 (df=7)which was significant beyond the .05 level. These correlations confirm the expectations held here.

6. Katheryn Dietrich, Research Associate at Texas A&M University, was the field supervisor for data collection in the nonmetropolitan area, trainer of interviews for the M data collection, and had charge of the data processing for both. Dr. Kennedy Upham, Rural Sociology Departmental Demographer at Texas A&M University, assisted in selection of the population studied using demographic indicators from census data.

7. All of the stores, churches, condemned buildings, et cetera, were identified as non-dwellings. Every other dwelling building was selected to be in the sample (Buildings appearing in the middle of a block with no apparent rational order were selected by a random procedure.). This mapping was done under the direction of Dr. Kennedy Upham and Earl Taft with the aid of three mappers.

8. The interviewers were given individual assignments from the master map of the area and were instructed to contact each household in every dwelling marked as part of the sample and to interview all female homemakers with the criteria previously stated. All ineligible households, as well as all of the eligible households which had been interviewed, were marked on the master map daily.

9. Either Earl Taft or Dr. William Kuvlesky was available to the interviewers at all times during the interviewing.

10. In a third of the M cases and half of the NM ones the main income source who was unemployed was also disabled. This would suggest that they were possibly getting money because of their disabilities. It is suggested that in all probability the majority of the main income sources who were unemployed were receiving some sort of public or private aid which made them the main income source; however, no facts are being given at this time to support this assumption. Some of the interviewers observed that a boyfriend supported the family or that someone in the family was a prostitute which might explain some in the unemployed category.

11. It might briefly be stated that the main income source was determined by a question asking the respondent to identify the family member in this role. It was a subjective judgement on her part and does not necessarily realistically represent the individual who actually brought in the largest part of the family's income.

12. In four families there were family members (one in each family) who did not have a degree of disability recorded. In these families, because of the information that would have been lost (In one case three family members had the highest degree of disability possible.). the member with no degree specified was disregarded by summing the degrees of the other family members only and dividing by the number of other family members. There were five whole families on which no information was recorded with regard to the members' degrees of disability, and these were dropped for primary analysis.

13. There were no farm owners in the self-employed category. Although in most cases the profits reported were relatively small, the self-employed (store owners, cafe owners, mechanics and truck drivers generally) were ranked with the professionals because they had assets, probably tended to understate their profits, and are generally considered to have higher occupational prestige than those working in the same type jobs (store, cafe and mechanic shop manager, and wage earning truck drivers). These factors being weighed, it was decided to combine.

14. In $X^2$ analysis expected values of three or more were considered adequate in agreement with Ostle (1963:127). If the degrees of freedom were 5 or greater, expected values of 1 or more were considered adequate for a conservative X2 test in agreement with Lewontin and Felsenstein (1965).

15. Dropping one family of 19 (a professional lady with two elderly disabled parents living with her and her disabled teenage son) which had a disability index of 41, the correlation went up to .6 which was still not statistically significant.

16. It is hoped that this problem can be somewhat meliorated through sililar analysis on data collected by other states involved in NC-90.

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# APPENDICES

## APPENDIX A: COMPARISON OF VILLAGE AND TOWN POPULATIONS ON THE VARIABLE "DISABILITY"

Table 1. Percentage Distribution of Families with Disabled Members for Village and Town Populations.

| Families with: | Village (N=52) | Town (N=207) | Total (N=259) |
|---|---|---|---|
| | Percent | | |
| Disabled Members | 27 | 29 | 28 |
| No Disabled Members | 73 | 71 | 72 |
| Total | 100 | 100 | 100 |
| $X^2$=.13 | df=1 | | .70 < P < .80 |

Table 2. Percentage Distribution of Individuals with Disabilities for Village and Town Populations.

| Individuals with: | Village (N=304) | Town (N=1089) | Total (N=1393) |
|---|---|---|---|
| | Percent | | |
| Disability | 7 | 8 | 8 |
| No Disability | 93 | 92 | 92 |
| Total | 100 | 100 | 100 |
| $X^2$=.32 | df=1 | | .50 < P < .70 |

Table 3. Percentage distribution of the Number with Disabilities in the Families with Disabled Members for Village and Town Populations.

| Number in Family Disabled | Village (N-14 | Town (N=61) | Total (N=75) |
|---|---|---|---|
| | | Percent | |
| 1 | 72 | 69 | 70 |
| 2* | 14 | 28 | 25 |
| 3* | 14 | 3 | 5 |
| Total | 100 | 100 | 100 |

$X^2$=.32 df=1 .50 < P < .70

*2 and 3 disabled family member categories were combined for $X^2$ analysis.

Table 4. Percentage Distribution of the Degrees of Disability of Village and Town Individuals with Disabilities.

| Degree of Disability | Village (N=20) | Town (N=82) | Total (N=102) |
|---|---|---|---|
| | | Percent | |
| Not Limited (Lowest)* | 25 | 10 | 14 |
| Work, Limited Other | 20 | 23 | 23 |
| Work, Limited Work* | 30 | 38 | 36 |
| Not Work (Highest) | 25 | 29 | 27 |
| Total | 100 | 100 | 100 |

$X^2$=1.03 df=1 .30 < P < .50

Table 5. Percentage Distribution of the Relation of the Disabled Family Member to the Female Homemaker for Village and Town Individuals with Disabilities.

| Relation of the Disabled Member to The Respondent | Village (N=20) | Town (N=82) | Total (N=102) |
|---|---|---|---|
| | | Percent | |
| Respondent | 30 | 34 | 33 |
| Spouse | 10 | 15 | 14 |
| Son/Daughter | 40 | 27 | 29 |
| Parent | 15 | 18 | 18 |
| Others | 5 | 6 | 6 |
| Total | 100 | 100 | 100 |

$X^2$=1.38 df=2 .50 <P <.70

*These three categories combined for $X^2$ analysis.

## APPENDIX B: CHARACTERISTICS OF THE FAMILIES STUDIED

Table 1. Percentage Distribution of the Education of the Homemakers by Place of Residence.

| Educational Level Attained by Homemaker | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| Less than 8 Grades | 19 | 12 | 16 |
| 8 Grades | 12 | 10 | 11 |
| 9-11 Grades | 32 | 40 | 36 |
| 12 Grades | 30 | 30 | 30 |
| College or Graduate Study | 6 | 5 | 5 |
| Do Not Know or No Response* | 1 | 3 | 2 |
| Total | 100 | 100 | 100 |

$X^2$=7.02 df=4 .10 < P < .20

*This category is not used in $X^2$ analysis.

Table 2. Percentage Distribution of the Age of the Homemaker by Place of Residence.

| Age of Homemaker | Nonmetro (N=259) | Metro (N=294) | Total (N=553 |
|---|---|---|---|
| | Percent | | |
| 25 or less | 16 | 19 | 17 |
| 26-35 | 30 | 27 | 29 |
| 36-45 | 28 | 32 | 30 |
| 46-55 | 17 | 14 | 16 |
| 56 and over | 8 | 7 | 7 |
| No Response** | 1 | 1 | 1 |
| Total | 100 | 100 | 100 |
| Mean Age of Homemakers* | 37.416 | 37.168 | |

$X^2$=2.8 df=4 .50 < P < .70
*F=.07 df=1,551 Not Significant
**No response not used in $X^2$ or F tests.

Table 3. Precentage Distribution of Size of the Families by Place of Residence.

| Number in Family | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| 4 or Less | 40 | 54 | 47 |
| 5-8 | 52 | 41 | 46 |
| 9 or More | 8 | 5 | 7 |
| Total | 100 | 100 | 100 |
| Mean Number in Family | 5.3784 | 4.6667 | |

$X^2$=11.19 df=2 .001< P < .01

*F=16.20 df=1,551 P < .0005

Table 4. Percentage Distribution of the Type of Family Structure (Nuclear and Extended, with and without Husband) by the Place of Residence

| Type of Family | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| I. Nuclear with Husband | 57 | 38 | 48 |
| II. Nuclear without Husband | 17 | 42 | 30 |
| III. Extended with Husband | 12 | 7 | 9 |
| IV.. Extended without Husband | 14 | 13 | 13 |
| Total | 100 | 100 | 100 |

$X^2$=41.33 df=3 P < .001

Table 5. Percentage Distribution of the Nonmetropolitan and Metropolitan Family Income Levels.

| Income Level | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| Under $3000 | 19 | 30 | 25 |
| $3000-$5999 | 42 | 39 | 40 |
| $6000-$9999 | 30 | 21 | 25 |
| $10,000 and Over | 5 | 6 | 6 |
| No Response* | 4 | 4 | 4 |
| Total | 100 | 100 | 100 |
| Mean Family Income** | 5229 | 4713 | (4955) |

$X^2$=11.44 df=3 .005<P<.01

**F=3.97 df=1,551 P<.05

*$X^2$ excludes no response category.

Table 6. Percentage Distribution of the Occupation of the Main Income Source by Place of Residence.

| Occupation of the Main Income Source | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| Not Employed | 11 | 25 | 18 |
| Unskilled* | 26 | 34 | 30 |
| Semi-skilled | 49 | 23 | 36 |
| Skilled | 5 | 9 | 7 |
| Clerical, Sales | 2 | 8 | 5 |
| Self-Employed, Salaried Professional | 7 | 1 | 4 |
| No Response** | 0 | (1)0 | (1)0 |
| Total | 100 | 100 | 100 |

$X^2$=71.4 df=5 P<.001

*Includes those in the Armed Forces.

**$X^2$ excludes no response

Table 7. Percentage Distribution of Relation of Main Income Source to the Homemaker by Place of Residence.

| Relation of Main Income Source to Homemaker | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| Respondent | 30 | 57 | 44 |
| Spouse | 64 | 40 | 51 |
| Son/Daughter | 4 | 1 | 3 |
| Parent* | 1 | 1 | 1 |
| Other* | 1 | 1 | 1 |
| Total | 100 | 100 | 100 |

$X^2$=45.14 df=3 P < .001

*These two categories were combined for $X^2$ analysis.

Table 8. Percentage Distribution of Families Having and not Having Flush Toilets for Each Residence Type.

| Does this dwelling have a flush toilet? | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| No | 42 | 1 | 20 |
| Yes, but used by another household* | 1 | 1 | 1 |
| Yes, for this household only* | 57 | 98 | 79 |
| Total | 100 | 100 | 100 |

$X^2$=148.89 df=1 P < .001

*These two categories combined for $X^2$ analysis.

Table 9. Percentage Distribution of Families Having and not Having Piped Water for Each Residence Type.

| Does this dwelling have piped water? | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| No | 28 | 0 | 13 |
| Cold Piped Only | 18 | 2 | 10 |
| Hot and Cold Piped | 54 | 98 | 77 |
| Total | 100 | 100 | 100 |
| $X^2$=155.07 | df=2 | | P < .001 |

Table 10. Percentage Distribution of the Number of Rooms in the Dwellings of Metropolitan and Nonmetropolitan Families.

| Number of Rooms in Dwelling* | Nonmetro (N=259) | Metro (N=294) | Total (N=553) |
|---|---|---|---|
| | Percent | | |
| 1-3 Rooms | 20 | 12 | 16 |
| 4-6 Rooms | 74 | 81 | 77 |
| 7-9 Rooms | 6 | 6 | 6 |
| No Response** | (1)0 | 1 | 1 |
| Total | 100 | 100 | 100 |
| Rooms per person*** | .9740 | 1.1714 | |
| $X^2$=5.27 | df=2 | | .05< P < .10 |
| *** F=22.11 | df=1,551 | | P < .0005 |

*Excluding bathrooms, balconies, foyers, porches, halls and half rooms.
**No response not included in X2 analysis nor rooms per person calculations.
***Rooms per person per family calculated first, then summed and divided by the number of families in each of the residence categories.

## APPENDIX C: SOURCES OF FAMILY INCOME*

A. Earned Income
   1. Salary or wages
   2. Profit from own business
   3. Roomers and/or boarders
   4. Sale of homemade products
   5. Bonus, commission
   6. Income tax refund

B. Returns from Investments
   1. Rents received from property
   2. interest and dividend
   3. Annuities, trusts, periodic insurance payments
   4. Royalties

C. Social Security
   1. Survivor's benefits, OASI
   2. Disability benefits
   3. Retirement benefits

D. Benefits Related to Job
   1. Workman's compensation
   2. Disability insurance
   3. Unemployment insurance (including SUB-supplenentary unemployment benefits - if paid by company)
   4. Job related retirement benefits which are not armed forces or SS.

E. Armed Service Benefits
   1. Serviceman's pay or family allotment
   2. Veteran's educational benefits
   3. Pension, disability or retirement

F. Welfare Payments
   1. Aid to the blind
   2. Aid to permanently and totally disabled
   3. Old age assistance
   4. Aid to families with dependent children (ADC or AFDC)
   5. General welfare assistance
   6. Private agency aid

G. Legal Arrangements
   1. Child support payments
   2. Alimony or equivalent
   3. Other (specify)_____

H. Gifts and Inheritances (This category not used in calculating the family's total income.)
   1. Money gifts, prizes, windfalls
   2. Money inherited
   3. Life insurance benefits (lump sum only)

*Taken from "NC-90 —"Patterns of Family Living Questionnaire," 1970: 19-20.